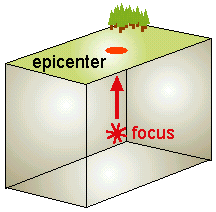
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_\_\_\_\_

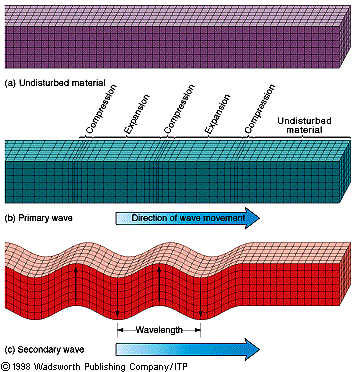
**Planet Earth: Earthquakes and Volcanoes---Chp. \_\_\_\_\_\_\_\_ Sec. \_\_\_\_\_\_\_ pp.\_\_\_\_\_\_\_\_\_-\_\_\_\_\_\_\_\_\_**



**EARTHQUAKES**

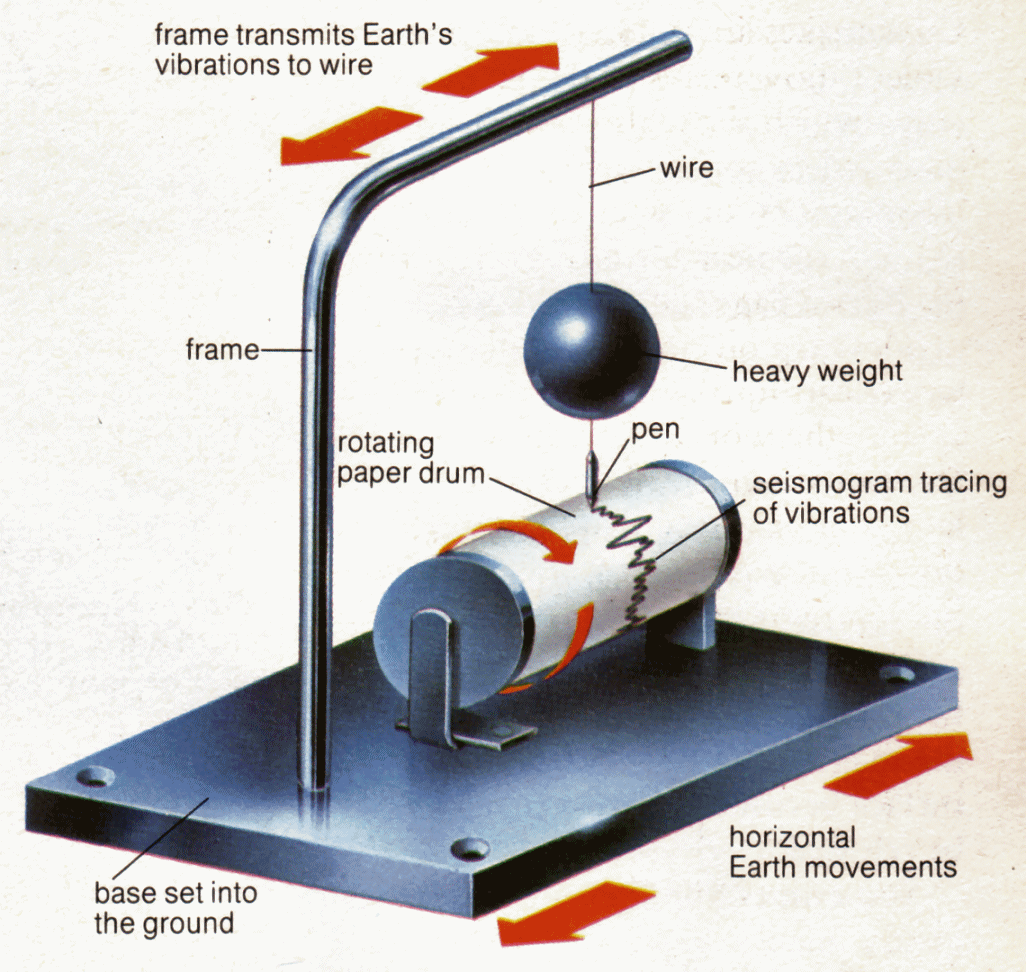
* Occur due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Focus** | **Epicenter** |
|  |  |



* **3 types of seismic waves**:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* **P (primary)-waves**: move the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Rocks are squeezed and pushed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **S (secondary/shear)-waves**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than P-waves.
  + Rocks move at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* **Surface waves**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the three types of waves.
  + Rocks move \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ wave.

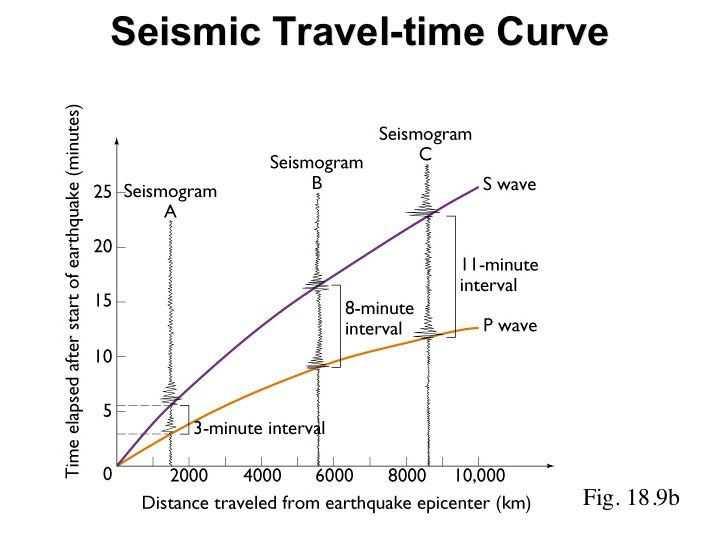
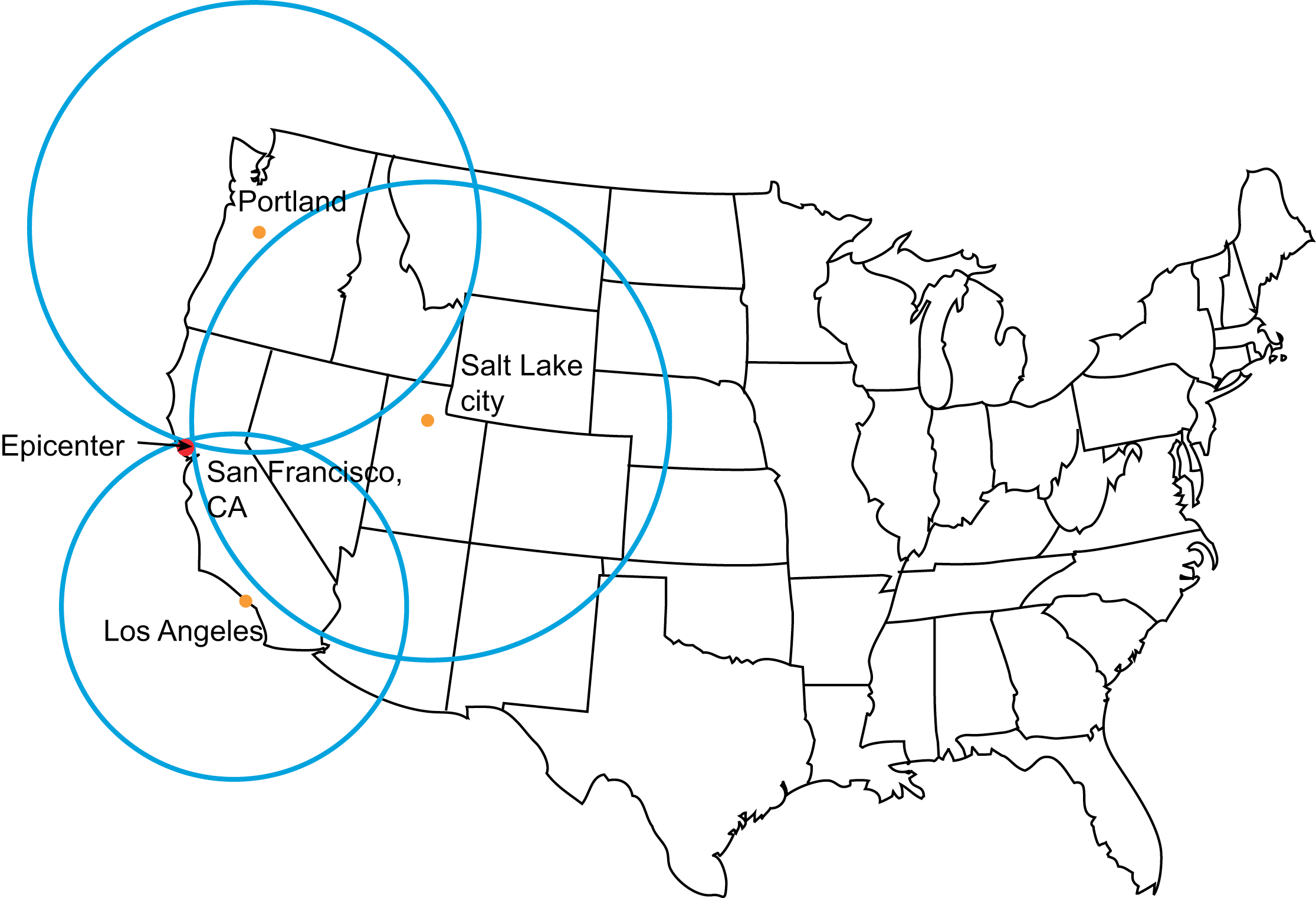
**How are earthquakes measured?**

**Seismograph**

* **Seismograph**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that can detect, amplify, and record ground vibrations.
* **Seismogram**: a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (paper) showing the motion of the ground versus time.

**Travel-Time Curve**: measures the time \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (that hit different seismic

stations).

* Wave speed differs from station to station because of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Tells you the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* As the time between waves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the distance from the epicenter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Time and Distance= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ relationship!
* **Explain** how we can use seismograms and the travel time curve graph to determine the distance from the epicenter.
* By looking at travel-times of seismic waves to different stations, we can generate a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the epicenter location.
  + The **epicenter** of an earthquake is where all 3 circles \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Richter Scale**

* Measures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (energy of largest seismic wave) on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ scale.
  + Look at the wave’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Each magnitude is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than the previous magnitude.

**Modified Mercalli Scale**

* Amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ experienced at different locations (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)
* Varies based on:
  + overall \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + how \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that ruptured in the earthquake
  + rock/land texture or type (i.e. sand vs. concrete)

**VOLCANOES**

**Volcanism:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Fueled by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Rises to surface because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
  + Called lava once at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Location of Volcanoes:**
  + Mostly determined by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Most found at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ boundaries.

**Convergent Volcanoes🡪Ring of Fire:** outlines the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plate.

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ volcanism
  + plates colliding
  + continental \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ zones characterized by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ eruptions

**Divergent Volcanoes🡪Icelandic volcanoes:** unusually explosive due to hot spots

* formed where \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* new ocean floor is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ here
* characterized by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Hot Spots🡪Hawaiian Islands**

* Unusually hot regions of Earth’s mantle where high-temperature plumes (columns) of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rise to the surface.
* ****Usually form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ plate boundaries.
* Stationary—\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Vent**

**Volcano Anatomy**

**Crater**

* **Conduit**: tube-like structure that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* **Vent:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Conduit**

* **Crater**: bowl-shaped depression \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the vent.

**Types of Volcanoes**

* Appearance determined by:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* 3 major types of volcanoes:

|  |  |  |
| --- | --- | --- |
| **Shield** | **Cinder Cone** | **Composite** |
| **http://www.suu.edu/faculty/colberg/hazards/volcanoes/shield2.jpg** |  |  |

**MOUNT VESUVIUS**

* Catastrophic eruption of A.D. 79 destroyed the cities of Pompeii and Herculaneum and killed at least 16,000 people
* Buried 10’ deep with lava & ash
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_🡪570 degrees F (300 degrees C)
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, with many casualties shocked into a sort of instant rigor mortis.